FCC DOCKET 25-133. Priotize Public Health Over Telecom Profit.

In the Request for Comment, you posed the question, is the FCC a captured agency? Harvard published an expose by investigative journalist Norm Alster. Alster describes how the FCC is a "captured agency" as its dominated by the very industries its supposed to regulate, similar to Tobacco. "Given industry's money and influence - technologies have almost totally escaped political scrutiny, regulatory control, and legal discipline."

Alster's observations are even more relevant today given technology has permeated every aspect of our society: schools, cars, homes, earth and space, yet wireless communications have been blindly promoted, without regard to toxic effects or recent science. Alster asks, "Should local zoning authorities and American citizens be stripped of the right to protect their own health? Should education be digitized and imposed just because technology companies want to develop a new market and lock in a younger customer base?"

I agree with a "do no harm" approach for children and the environment and to give back local control, and not exploit children for new markets. This Propublic article shares that "The FCC has a broad mandate to ensure that technology doesn't damage the environment. The task includes everything from protecting wildlife and human health to preserving historic sites and even preventing aesthetic blight."

Moving forward, the FCC should be looked at the failure to follow its own mandates.

Prorepublic shares, "(For example,)n Silicon Valley, a space startup pursued plans to equip thousands of satellites to use mercury fuel in orbit, even as an Air Force official at one of the possible launch sites voiced "extreme concern" that the toxic element could rain back down to earth. You may be surprised to learn that these potential harms fall under the jurisdiction of the Federal Communications Commission."

...the FCC presides over a nationwide buildout for 5G service, which will require... new "small cell" transmitters, those perched on street poles and rooftops, often near schools, apartments and homes. But even with this massive effort underway, as ProPublica previously reported, the FCC has refused to revise its radiation-exposure limits, which date back to the era of flip phones." https://www.propublica.org/article/fcc-environment-cell-towers-failures

NEPA rules need to apply also in space, as the FCC has licensed thousands of commercial satellites circling the planet while incurring risks to collisions in space putting future space travel at risk, impediments to astronomy, satellite debris falling back to earth, and pollution from rockets depleting the ozone layer.

In 1996 when the EPA was defunded, and oversight for digital technology was handed over to the FCC, it was presumed the FCC would turn to other agencies for advice – OSHA, the FDA, EPA. This did not happen. We need other agencies to step in and provide oversight.

1. The FCC needs to respond to the 2021 court order, Environmental Health Trust/Children's Health Defense et al v FCC where the 30-year-old RF safety guidelines were found to be arbitrary and capricious, **not science-based**, the FCC must include biological effects, not just thermal heating of tissue. https://ehtrust.org/in-historic-decision-federal-court-finds-fcc-failed-to-explain-why-it-ignored-scientific-evidence-howingharm-from-wireless-radiation/
   On Aug. 13, 2021 the U.S. Court of Appeals for the D.C. Circuit ruled the FCC's **2019 decision** that its 1996 guidelines adequately protect the public from non-cancer harms from 5G and wireless technologies was capricious, arbitrary and not evidence-based. https://docs.fcc.gov/public/attachments/FCC-19-126A1.pdf

2. **The majority of adults and children use their mobile phones many hours a day, but exposure limits are based only for 40-60 minutes.** According to the EHJouurnal https://ehjournal.biomedcentral.com/articles/10.1186/s12940-022-00900-9 "In the late-1990s, the FCC and ICNIRP adopted radiofrequency radiation exposure limits based on 1980s studies involving 40–60-minute exposures in 5 monkeys and 8 rats.

   While the FCC continues to make no changes to RF emissions and declined to alter its RF standards based on non-thermal biological effects in humans (RF Order ¶ 152), many studies show what EH journal calls "adverse effects including: non-thermal induction of reactive oxygen species, DNA damage, cardiomyopathy, carcinogenicity, sperm damage, and neurological effects, including electromagnetic hypersensitivity, ….and statistically significant associations between RFR exposure and increased brain and thyroid cancer risk."

3. Section 704 and FCC preemptive actions enforce the FCC's outdated RF radiation guidelines, ignoring evidence of harm, particularly to children. These laws remove personal freedoms, property rights, and override the states' local power to protect health and safety.

4. The FCC needs to set a separate standard for children – as its guidelines hail from a time when no children used cell phones, yet the FCC declines to make special standards for RF exposure levels for children, saying "… the standard for determining the compliance… was designed to test for effects on children as well as adults." (RF Order ¶ 15). Yet phones are not tested on adults, let alone children, but on bowling ball sized heads of a male dummy named Standard Anthropmorphic Mannequin (or SAM for short). SAM's head is nearly double the size of the head of toddler and larger than 97 percent of all people." See https://wearenotsam.com

   The FCC's failure to address the 2021 court mandate continues to have ripple effects that don't take into account children's unique physiology, and impacts on children's health hindering brain development. According to the US Environmental Protection Agency, children are not little adults, yet this is exactly what the FCC is going by, by a "one size fits all" approach. According to the American Academy of Pediatrics, "when used by children, the average RF energy deposition is two times higher in the brain and 10 times higher in the bone marrow of the skull, compared with mobile phone use by adults." According to this ScienceDirect article, "Children are at greater risk than adults when exposed to any carcinogen." https://www.sciencedirect.com/science/article/pii/S2213879X14000583

5. The Environmental Working Group "(EWG) guidelines, recommends the FCC adjust its outdated health standards. EWG guidelines are the first developed in the U.S. to focus on children's health, and they recommend that children's exposure overall be 200 to 400 times lower than the whole-body exposure limit set by the FCC in 1996. https://www.ewg.org/news-insights/news-release/2021/07/study-wireless-radiation-exposure-children-should-be-hundreds

6. The FCC needs a Surgeon's General Warning on all wireless devices including school issued devices: only tested on a plastic dummy, and not taking into account a child's unique physiology. The California Department of Public Health (CDPH) issued a **press release** to announce their long-awaited **cell phone warning document** on December 13, 2017, warning teens and children to keep their phone away from their body and Dr. Smith writes, "Children's brains develop through the teenage years and may be more affected by cell phone use." https://www.cdph.ca.gov/Programs/OPA/pages/nr17-086.aspx

   The FCC Surgeon's General Warning needs to also include clear warnings on all purchased products, similar to cigarettes, advising

users to not wear cell phones in pockets next to the body or the phone will exceed its limits. FCC fine print warnings advising against pockets should include heating and overheating risks of phones, software problems, and higher temperatures when charging. It may be common for phones to reach temperatures up to **45°C (113°F)** during charging, or due to a glitch while 42°C/107°F is hot. Why are companies like Znet saying phones are within the safe "no injury" temperature range but failing to mention unsafe conditions in pocket, where its best to keep lower than body temperature to avoid damage to the reproductive system?
https://pmc.ncbi.nlm.nih.gov/articles/PMC9288403/

Tech reviewer Mohit Verma posted a video on X showing his iPhone hitting 42°C (107°F) after "just a 2-minute FaceTime call or when scrolling through reels for 8-10 minutes.) and another posted their phone at 100°F although inactive.

There is also evidence published recently in the *Journal of Craniofacial Research* indicating that the places people carry their cellphone could lead to bone loss and related bone problems like osteoporosis.

School issued devices must have accessible fine print warnings, for example, children in schools wear IPads on lanyards right next to their heart, despite potentially violated FCC guidelines. Currently the FCC buries warnings in obscure legal fine print warnings on a device where few children, let alone an adult can read.

7. The FCC, should have oversight regarding impacts to childhood chronic disease epidemic, as electromagnetic frequency radiation is yet another toxin.

8. Cars have too many aggregate exposures for child or adult as many *new* and late-model *cars* include built-in Wi-Fi *antennas* with the potential to transform them into rolling hotspots. The FCC should offer cars where the technology be turned off upon demand, especially if a family has children. According to Physicians for Safe Technology: Newer cars have significantly more integrated "smart" features which are wireless and increase exposure to radiofrequency non-ionizing radiation inside the car as the RF tends to bounce around and not be discharged readily due to the metal composition of cars which reflects but does not absorb the radiation. Electric vehicles use high voltage batteries that can generate high magnetic fields. Magnetic fields have been known to have adverse health effects in the short term **with MRI's**. Here are **Possible Health Impacts of Advanced Vehicles Wireless Technologies. (2019) Judakova Z et al. (2019)** Transportation Research Procedia. 40:1404-1411. 2019.

https://www.sciencedirect.com/science/article/pii/S2352146519303643?via%3Dihub
Radiofrequencies in cars: A public health threat- Letter from Dr. Theodore Metsis to Ronald N. Kostoff regarding the EMF Health Effects of Automotive Radiation.
https://radiationdangers.com/automotive-radiation/

9. Driverless vehicles should be considered part of IoT and the FCC should be doing a better job regulating emerging technologies with aggregate exposures. Driverless vehicles in California drive by schools and pick up children in robot taxis, however there is limited FCC regulation. Driverless cars such as Waymo use frequencies regulated by the FCC that are too new and unknown. For example, radar uses **millimeter wave frequencies** to provide the Waymo Driver with crucial details like an object's distance and speed, and autonomous vehicles.
10. Transportation needs regulation besides performance-based standards and system redundancies. **Dr. Joel Moskowitz from UC Berkeley School of Public Health writes, "**it is known that millimeter waves (MMW) are absorbed by surface tissue such as skin and the cornea, According to this article. "We previously demonstrated that **MMW damages the eye by heat accumulation and transfer.** How is this safe for a child, pregnant woman, elderly or the general population?
11. Who is regulating Robotaxis? Some driverless cars send out millions of radar sensors to create a 3D picture, using millions of radar millimeter sensors or laser pulses that impinge on an auto or pedestrian. Most of the compliance with federal standards are typically claimed for only one set of lights or emitters, yet on the Waymo 5th Generation there are 51 cameras/sensors. Request for FCC federal standards for aggregate sensors -not just one set of lights or emitters. The aggregate signal of lights, cameras and antennas using LiDAR, RFR mmWave, IR and ultrasonic sensors, etc. must be analyzed. LiDAR is a concern especially if there is a chip defect. The ranges on all of these sensors are hundreds of meters each, aggregate exposures to be taken into account, and to reconsider impacts of new technologies such as the millimeter frequency that do potentially heat up tissue – and have thermal effects.

12. **Aggregate exposures of many overlaying frequencies/technologies must be taken into account**. Technologies of our smart grid can overloaded powerlines, are a fire risk, nor environmental safe and have biological impacts. With new technologies overloading the grid, the smart grid not only has radiofrequency radiation emissions, but contain spurious emissions (unintended frequencies). Smart meters and any device with switch

mode power supplies SMPS, generate what's known as "superharmonics" or "dirty electricity" below 150 kHz. This is a bandwidth unregulated for adverse health effects involving 60 Hz power lines. Frequency emissions with the electrical grid should be delegated to the Environmental Protection Agency or an agency with oversight.

13. Science shows powerlines and smart grid exposures may include electric and magnetic fields: and science research shows links to childhood and adult chronic disease, yet we currently have lack of regulation, one solution would be the filtering and monitoring of **high-frequency voltage transients** on a smart grid. There is a reason families don't purchase homes in high voltage transmission power lines, as high voltage *power lines* have been found to alter cell structures and development, and to cause an increase *in* certain cancers. David Stetzer and other scientists such as Dr. Magda Havas have published research that dirty electricity (high voltage transients, harmonics) is the cause of a host of outcomes ranging from cancer, diabetes (or aggravate diabetes by affecting insulin levels), and multiple sclerosis to chronic stress and suicide. In fact, it has been alleged that dirt electricity may be responsible for "most of the diseases of civilization" https://pubmed.ncbi.nlm.nih.gov/23323864/

14. In summary, create standards for children, as well as federal agencies that work with the FCC to address and minimize aggregate exposures from new technologies.